REMARKS

In the Office Action dated September 22, 2005 the previous rejection of claims 1, 9, 20-24 and 35-39 as being unpatentable under 35 U.S.C. §103(a) based on the teachings of Lanza et al and Chance was maintained.

Claims 2-8, 10-19 and 25-34 were stated to be allowable if rewritten in independent form.

Applicants note with appreciation the interview courteously afforded the undersigned counsel for the Applicants on December 14, 2005.

At the interview, Applicants presented their position that the Lanza et al reference, being an x-ray system, is capable only of generating diagnostically relevant images of bone tissue, because soft tissue, although appearing in an x-ray image, does not appear in such an x-ray image with sufficient clarity to allow image analysis thereof, such as by edge detection, to make any definitive dimensional determinations. Applicants also argued that the Chance reference teaches only the generation of spectroscopic data, in the form of a spectrum, and therefore is not readily combinable with the x-ray image obtained in the Lanza et al reference. It is not physically possible to simply substitute a light source for the x-ray source in the Lanza et al reference and, without significant further steps obtain an image wherein the diameter of a joint (as opposed to merely bones within a joint) can be determined.

Moreover, in the Chance reference, in the embodiments wherein a finger is being analyzed, the finger is disposed in a circular or cylindrical holder, and the finger is stated to occupy the entirety of the opening to prevent any introduced photons from leaking out. Making any sort of dimensional analysis in accordance

with this apparatus would be meaningless, because the finger is already constrained to have the diameter of the interior opening in the cylinder, and therefore the Chance reference would be useless for undertaking any detection that lead to a calculation of the joint diameter and circumference.

In response, the Examiner at the interview stated that image enhancement techniques can be used with regard to the images of soft tissue in an x-ray image so that, in the opinion of the Examiner, edge detection could still be applied to those soft tissue portions in the x-ray image. The Examiner also stated that an image can be generated mathematically from the spectral data obtained in the Chance reference.

Applicants acknowledge that the information noted by the Examiner at the interview is known to those of ordinary skill in the field of medical imaging, but argued that the extensive modifications that would have to be undertaken to obtain any type of optical image, from which a diameter calculation could be made, from the Lanza et al and Chance references would involve such extensive modification as to preclude the use of those teachings as a basis for a rejection under 35 U.S.C. §103(a).

In view of this fundamental disagreement between Applicants' representative and the Examiner, it was agreed at the interview that at least independent claims 1 and 9 would be amended to bring the subject matter therein that the Examiner has already indicated to be allowable. At the interview, the Examiner acknowledged that the details relating to the equation as set forth in claim 2 were not necessary to support the allowability of claim 2 over the prior art, and therefore only the portion of claim 2, without the further definition of the calculating step, has been embodied in independent claim 1.

The entirety of allowable claim 10 has been embodied in independent claim 9.

As to independent claim 24, this claim has not been amended because Applicants still believe that even if all of the aforementioned statements of the Examiner are accepted, significant further modification of the Lanza et al/Chance combination would have to be made, since neither of those references discloses first and second light sources and a camera on which attenuated and scattered light from those respective sources are incident for recording a two-dimensional projection image. In the substantiation of the aforementioned rejection of the claims based on Lanza et al and Chance, the Examiner did not specifically address claim 24 and did not identify any location in those references disclosing the use of first and second light sources and a camera as set forth in claim 24. Claim 24 in its present form, and the claims depending therefrom, are therefore submitted to be allowable over the prior art of record. Since the present Amendment brings subject matter that has already been indicated to be allowable into the independent claims, it was agreed at the interview that such an Amendment would be entered at this stage of prosecution, following the final rejection.

At the interview, the Examiner mentioned the possibility of conducting further searching in the field of OCT (optical coherence tomography). Applicants of course are well aware of OCT technology, but this is a relatively recent imaging modality, and Applicants are not willing to concede that all details thereof that might be relevant to the subject matter of the present application would pre-date Applicants' priority date. Therefore, Applicants are not willing to concede, as a general proposition, that OCT technology would necessarily be available as prior art against the subject matter of the present application. If the Examiner does conduct such

further searching and does locate a specific reference, Applicants believe the proper procedure would be to re-open prosecution to permit Applicants to review such a reference and comment on its teachings and relevant prior art date.

Early reconsideration of the application is respectfully requested.

Submitted by,

Steven H. Noll (Reg. 28,982)

SCHIFF, HARDIN LLP
CUSTOMER NO. 26574
Patent Department
6600 Sears Tower
233 South Wacker Drive
Chicago, Illinois 60606
Telephone: 312/258-5790
Attorneys for Applicant.

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